

The Stockmarket as a Source of Finance

A Comparison of U.S. and Indian Firms

Cherian Samuel

Internal finance is less important for Indian firms than U.S. firms, and external debt more — but for neither is the stockmarket an important source.



Summary findings

In seeking funding, a firm's main choice is between external and internal financing. And, says Samuel, the evidence suggests that the stock market plays only a limited role providing finance for both U.S. and Indian firms.

Samuel finds that internal finance plays less of a role for Indian firms than for U.S. firms — and external debt a bigger role. This is consistent with theoretical predictions, given that information and agency problems are less severe for Indian firms than for U.S. firms. (India's financial system is predominantly bank-oriented, more like German and Japanese financial systems than like American and British systems.)

Samuel's estimate of the role of the stock market as a source of finance is lower than other estimates, partly because of methodological approach: He studied sources and uses of funds, rather than the financing of net asset growth and capital expenditures.

To the extent that these findings for India are generalizable to other developing countries — analysis was restricted to the stock market's role in providing finance — Samuel concludes that the development of stock markets is unlikely to spur corporate growth in developing countries. (Why, then, he wonders, do firm managers worry so much about share prices?)

And there's a caveat: Foreign investors have played only a limited role in the slow-paced privatization of India's state-owned enterprises — although in recent years, despite delayed reform of the securities market, foreign institutional investors have begun to invest more.

In emerging markets in Eastern Europe and Latin America, foreign investors have played a much more active role in privatization, chiefly by investing in those stock markets.

This paper is a product of the Operations Policy Group, Operations Policy Department. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cherian Samuel, room MC10-362, telephone 202-473-0802, fax 202-477-6987, Internet address csamuel@worldbank.org. April 1996. (43 pages)

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The stock market as a source of finance: A comparison of U.S. and Indian firms*

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* I like to thank Hemant Shah, Jack Glen, and Ajit Singh for comments on an earlier version of this paper.

The stock market as a source of finance: A comparison of U.S. and Indian firms

In a market economy, the stock market performs three basic functions: (i) a source for financing investment; (ii) a signalling mechanism to managers regarding investment decisions; and (iii) a catalyst for corporate governance. This paper analyzes the financing practices of U.S. and Indian firms with regard to sources and uses of funds, based on their balance sheets.¹ The primary objective of the study is to pinpoint the role of the stock market in financing firm expenditures. The analysis in this paper is based on data for an aggregate of firms in the U.S. and India. The paper is divided into two main sections. Section I outlines the analytical issues and Section II presents and discusses the empirical results.

-I-

There are several reasons for undertaking a comparative analysis of sources and uses of funds for Indian and U.S. firms. For one, India is one of the fastest-growing emerging stock markets. In fact, India has the second largest number of listed firms on its stock exchanges after the U.S., though the Indian stock market is much smaller than several others in terms of market capitalization. It is also interesting to explore corporate finance issues in the context of a developing country like India from a theoretical perspective, even as a pure comparative exercise in scholarship, especially given the extensive research on corporate finance for the U.S..²

There are a number of interesting issues that can be posed in a study of sources and uses of funds. For instance, what is the relationship between the different components of the sources

¹ Samuel (1995a) deals with the signalling role of the market and Samuel (1996a) deals with the governance role of the market.

² Based on International Finance Corporation's (IFC) recent project on corporate financial patterns in industrializing countries, Singh and Hamid (1992) and Singh (1995) have studied India and other developing countries.

and uses of finance, especially the role of the stock market as a source of finance? What about the mix between internal and external sources of finance and the mix between capital expenditures and other uses of funds?

The central issue regarding finance for the firm is its composition between internal and external sources. While retained earnings and depreciation are the main components of internal finance, debt and equity are the two components of external finance. Cash flows are defined as the sum of retained earnings and depreciation. Throughout this paper, the terms cash flows and internal finance are used interchangeably.

Stock market contribution

As pointed out by Mayer (1988), there are two sources of information for studying aggregate corporate financing patterns in different countries. The first is national flow-of-funds statements that record flows between different sectors of an economy and between domestic and overseas residents. The second source is company accounts that are constructed on an individual firm basis but are often aggregated or extrapolated to industry or economy levels.

Both sources have their advantages and disadvantages. In theory, flow-of-funds statistics provide comprehensive coverage of transactions between sectors. Company accounts are only available for a sample, often quite small, of a country's corporate sector. However, the data that are employed in company accounts are usually more reliable than flow-of-funds. In particular, flow-of-funds are constructed from a variety of different sources that are rarely consistent. As a result, statistical adjustments are required to reconcile entries.³

³ See also Corbett and Jenkinson (1994) for a comparative discussion of using flow-of-funds and company accounts.

This paper is based on company accounts. The analysis of sources and uses of funds has been done by looking at changes in the balance sheet items over time; a summary of this approach is shown in Table 1. The principal reason for adopting the balance sheet-based approach to the study of source and uses of funds is to facilitate the comparison of U.S. and Indian firms. The basic idea behind the balance sheet approach is that the firm's sources of funds come from decreases in assets and increases in liabilities while the uses of funds take place through increases in assets and decreases in liabilities.

As noted earlier, the measure of internal finance used in this paper is reserves and surplus (retained earnings) plus depreciation (table 1). The measure of stock market contribution or external finance (equity) used here is based on changes in the firm's paid-up capital emanating from changes in the number of shares as well as the price of shares.

However, it should be noted that there is another approach in the literature, following Prais (1976), that measures internal finance as retained earnings net of depreciation and compares it to net capital expenditures.⁴ This approach is useful if the focus is on studying the financing of the growth of the firm in terms of net capital expenditures. This paper however has a different focus and examines the broader issue of total sources and uses of funds for the firm and therefore considers depreciation as a source of funds for the firm and compares it to the firm's gross capital expenditures.⁵ In other words, replacement investment is considered as another use of funds by the firm. As noted by Prais (1976), one important consequence of this differential treatment of depreciation is that internal finance would be much more important if

⁴ Singh and Hamid (1992) and Singh (1995) among others follow this approach.

⁵ Mayer (1988, 1990), Corbett and Jenkinson (1994), and Samuel (1995b) also adopt this approach.

depreciation is counted as a source of finance than when depreciation is not counted as a source of finance, since depreciation is such a large item on both sides of the account when it is counted as a source of finance.

As a starting point, it is useful to note the results of Mayer (1988, 1990), who investigated the corporate financing patterns for the U.S., UK, Japan, Germany, France, Italy, Canada, and Finland for the 1970 to 1985 period based on the flow of funds accounts of these countries. The main findings of Mayer (1988, 1990) are: (i) retentions are the dominant source of finance in all countries; (ii) corporations do not raise a substantial amount of finance from the stock market in any one country; and (iii) banks are the dominant source of external finance in all countries, especially in France, Italy, and Japan.

These results can also be compared with that of Samuel (1995b), based on the cash flow statements of 533 U.S. manufacturing firms for the 1972-1987 period. The main findings of Samuel (1995a) are: (i) the financing hierarchy hypothesis is broadly supported when the sources and uses of funds analysis is conducted on a gross as well as net basis;⁶ (ii) on a net basis, the contribution of equity to the total sources of funds is negative; (iii) firms issue debt and equity to retire existing commitments rather than to finance capital expenditures, which appears to be done primarily through internal finance; and (iv) external finance plays a limited role with regard to capital expenditures.

Investment theories and the role of finance

The next issue to consider is the predictions of the alternative theories of investment

⁶ According to the financing hierarchy (pecking order) hypothesis, the firm's preference for sources of finance run from internal finance to debt to equity. This is discussed in greater detail later on.

regarding sources of finance.⁷ The neoclassical theory of investment is based in part on the Modigliani-Miller (1958) theorems in finance. The neoclassical view assumes that as long as the firm has profitable investments with returns above the cost of capital, the firm can obtain sufficient funds to undertake them. Consequently, internal and external finance are viewed as substitutes; firms could use external finance to smooth investment when internal finance fluctuates. More generally, the neoclassical view also implies a complete dichotimization of the real and financial decisions faced by the firm.

On the other hand, cash flow theories of investment--information-theoretic and managerial approaches--emphasize financing hierarchy faced by the firm wherein the firm's preference for sources of finance is internal finance, debt, and equity, in that order and therefore cash flows become critical in capital expenditure decisions.⁸ For instance, the information-theoretic approach to investment explicitly considers capital market imperfections that raise the cost of external finance; managerial discretion considerations lead to a similar outcome in the managerial theory of investment.

Managerial theory of investment

The managerial approach to corporate behavior directly challenges the assumption of profit maximization by the firm and instead postulates other objectives such as sales, staff,

⁷ The alternative theories of investment are: accelerator, cash flow, neoclassical, modified neoclassical, and Q. While the accelerator theory emphasizes output as the principal determinant of capital expenditures, neoclassical theory emphasizes cost of capital, modified neoclassical theory emphasizes cost of capital and output, cash flow theory emphasizes internal finance, and the Q theory emphasizes the q ratio (Tobin's Q)--the ratio of market value of the firm to its replacement cost. The focus here is on the cash flow theory and its contrast with the neoclassical model.

⁸ There have been numerous studies that have shown that internal finance is the most important determinant of investment decisions. See Kuh (1963) for early evidence and Fazzari et al. (1988) and others for recent evidence.

emoluments, market share etc., for managers.⁹ Given the separation of ownership and control (management), managerial behavior is discretionary and constrained rather weakly by shareholder-owner interests on the one hand, and by competitive market conditions on the other.

The key result of the managerial approach is that firms aim for greater output levels and faster growth than is consistent with maximizing the current stock market value of the corporation, taken as a proxy for stockholder welfare. The extent of managerial discretion to do this depends upon a minimum profit constraint imposed by the capital market, or upon sustaining a market value high enough to forestall a disciplinary takeover bid in the market for corporate control.

In the managerial theory of the firm, the fundamental determinant of investment is the availability of internal finance. Managers are envisaged as pushing investment programs to a point where their marginal rate of return is below the level that would maximize stockholder welfare; in other words, managers indulge in overinvestment. For these purposes, internal finance is particularly favored since they are the most accessible part of the capital market and most amenable to managerial desires for growth. In other words, professional managers avoid relying on the external finance because it would subject them to the discipline of the external capital market. In contrast, the level of cash flow is irrelevant for the firm's investment decisions in neoclassical theory; what matters is the cost of capital.

⁹ Strictly speaking, the managerial theory of investment can be thought of as being made up of two types of approaches--managerial capitalism and agency theory. Baumol (1959, 1967), Marris (1964), Grabowski and Mueller (1972) and others are examples of the managerial capitalism approach. The agency cost approach focusses on contracting aspects within the overall framework of the principal-agent model and is associated with Jensen and Meckling (1976) and others.

Information-theoretic approach

In asymmetric information models, firm managers or insiders are assumed to possess private information about the characteristics of the firm's return stream or investment opportunities. Myers and Majluff (1984) showed that, if outside suppliers of capital are less well-informed than insiders about the value of the firm's assets, equity may be mispriced by the market. In particular, the market may associate new equity issues with low-quality firms. If firms are required to finance new projects by issuing equity, underpricing may be so severe that new investors capture more than the Net Present Value (NPV) of the new project, resulting in a net loss to existing shareholders. In this case, the project will be rejected even if its NPV is positive. This underinvestment can be avoided if the firm can finance the new project using a security that is not so severely undervalued by the market. For example, internal funds and/or riskless debt involve no undervaluation, and therefore, will be preferred to equity. Myers (1984) refers to this as a "pecking order" theory of financing, i.e., that capital structure will be driven by firms' desire to finance new investments, first internally, then with low-risk debt, and finally with equity only as a last resort.

Based on these considerations, the information-theoretic approach to the study of investment also implies a positive relationship between cash flows and investment; in fact, this positive relationship is also seen as evidence of liquidity constraints faced by firms.

Given these considerations, external finance and internal finance are not perfect substitutes for the firm, as predicted by the Modigliani-Miller (1958) theorems and the neoclassical theory of investment. Therefore, in a world of heterogeneous firms, financing constraints would clearly influence the investment decisions of firms. In particular, investment

may depend on financial factors, such as the availability of internal finance, access to new debt or equity finance, or the functioning of particular credit markets.

Discussion

(i) In cash flow models, internal finance is generally viewed as a constraint on the volume of investment expenditures rather than as a determinant of the optimal capital stock. Therefore, there is no role for capital-labor substitution in these models, unlike the neoclassical model of investment.

(ii) It is often difficult to distinguish between the role of cash flow as a measure of the expected profitability of investment from its role as a measure of the availability of funds for investment. It is this latter aspect that is generally intended for measurement, and through which the liquidity effect is thought to operate. In the information-theoretic approach for instance, an increase in cash flow would increase investment. However, since increases in cash flow are likely to be highly correlated with increases in profitability, it is hard to tell if the increased investment is not primarily the result of increased profitability rather than increased cash flow. One solution—proposed by Fazzari et al. (1988)—is to use the q ratio as a measure of the expected profitability and cash flows as a measure of the availability of funds.

(iii) Even though the information-theoretic approach assumes the prevalence of capital market constraints and financing hierarchy, it is cast in a neoclassical framework with the usual assumption that managers act in the interests of shareholders and maximize profits and shareholder value. On the other hand, managerial theory is based on the premise that managers have objectives different from those of shareholders. Managers do not maximize profits and shareholder wealth, but instead maximize the growth rate/size of the firm and are probably more

concerned about managerial perquisites.

(iv) In the information-theoretic approach, it is assumed that funds are invested at rates of return above shareholder opportunity costs. This is an outcome of the assumption that managers act in the interests of shareholders. In the managerial model however, investment could take place at rates of returns below opportunity cost.¹⁰ This is because managers have objectives that are different from those of shareholders. Therefore, the policy implications of the two approaches are drastically different. In particular, overinvestment by managers is not an issue in the information-theoretic approach, while it is a matter of central concern in the managerial theory. These considerations also have important implications for the efficiency of the resource allocation process implied by the two theories.

(v) In the information-theoretic view, a financing hierarchy exists because of asymmetric information between managers and outside suppliers of finance. As demonstrated by Myers and Majluff (1984), firms are faced with a skeptical capital market that pays less for new equity than its true value, since the market cannot fully learn the expected return on the firm's investment. In the managerial view however, financing hierarchy exists because managers can use internal funds at their discretion and are hence exempt from the discipline of the external capital market.

(vi) The central issue in the managerial theory of investment is the prevalence of managerial discretion. Consequently, internal finance becomes important for investment decisions. On the other hand, the information-theoretic approach to investment emphasizes the role of information asymmetries and essentially views managerial discretion as an aspect of asymmetric information.

¹⁰ See Mueller and Reardon (1993) for recent evidence. Brainard et al. (1980) also found that substantial volume of investment in the U.S. economy had been undertaken below the opportunity cost of capital, which is inconsistent with the predictions of the neoclassical theory.

Therefore, internal finance is important for investment because of the prevalence of information asymmetries. In other words, the firm's reliance on internal finance is due to information problems as well as agency costs. The common ground between the two approaches lies in recognizing the fact that it is the separation of ownership and control that generates information asymmetries in the first instance, which in turn leads to discretionary managerial behavior.

(vii) It is interesting to note that, starting with the work of Fazzari et al. (1988), the consensus in the literature on the cash flow theory of investment appears to be that the principal explanation for the observed positive relationship between internal finance and investment is the presence of asymmetries of information. In contrast, this paper takes exception to this view and argues that the cash flow theory of investment is also driven by managerial considerations. However, this paper does not attempt to distinguish between the information-theoretic and managerial approaches on the basis of observed firm characteristics, since firm-level data was not available for India.¹¹

External Vs Internal finance

In the context of the firm's choice between internal and external finance, Koch (1943), Donaldson (1961), and others have documented the existence of financing hierarchy, wherein the firm's preferred ordering of the sources of finance is: (i) internal finance; (ii) external debt; and (iii) new equity.

As discussed before, the firm's reliance on internal finance could be rationalized from at least two theoretical perspectives: (i) managerial approach which emphasizes agency costs

¹¹ Oliner and Rudebusch (1993) and Samuel (1996b) distinguish between information-theoretic and managerial approaches based on firm-level data for U.S. manufacturing firms.

stemming from the separation of ownership from control and the importance of internal finance since internal finance facilitates managerial discretion; and (ii) information-theoretic approach which emphasizes asymmetries in information between insiders (managers) and outsiders (suppliers of capital) and the consequent credit rationing faced by firms.

Starting with Baumol et al. (1970), there has been a large literature on the related issue of rates of returns to alternative sources of finance for the firm. The emphasis in these studies has been in looking at the changes in rates of return on alternative sources of finance for a given firm over time; not really in terms of different types of firms. One exception has been the life-cycle approach due to Grabowski and Mueller (1975), where the focus in fact shifts to types of firms from the sources of finance; based on life-cycle and technology considerations, firms are classified as being either mature or dynamic.

One interesting finding from these rates of return studies has been the observed hierarchy in returns, with the returns rising from internal finance to new debt and new equity. Thereafter, one strand of the literature has gone on to compare the firm's rate of return to the cost of capital for alternative sources of finance and establish the fact that in a substantial segment of the U.S. corporate sector, investments have taken place at rates of return below the cost of capital and that this reflects the prevalence of considerable managerial discretion regarding capital expenditures.¹²

An alternative interpretation of this finding is to recognize that hierarchy in returns is precisely what one expects from the assumption of the firm facing a financing hierarchy, wherein the cost of finance rises from internal finance to new debt to new equity. After all, the

¹² See Mueller and Reardon (1993) for instance.

cost of capital and the required rate of return are two sides of the same coin. In fact, in a world of perfect capital markets, the rate of return should always equal the cost of capital. Therefore, these findings of a hierarchy in returns connote a clear rejection of the perfect capital markets paradigm wherein the rates of returns are predicted to be the same across alternative sources of finance. This hierarchy in returns can also be viewed as consistent with the prediction of the cash flow theories that firms that use external capital markets should attain higher returns on investment than firms that do not use external capital markets.

As noted by Lyon (1992), firms with access to sufficient internal funds or external funds without significant agency costs may be able to undertake all investment opportunities with positive net present value. Other firms, however, may face a divergence between the required return on internal funds and that required on external funds due to asymmetric information. In this case, investment opportunities which would be profitable to undertake with internal funds may not yield sufficient returns to allow external financing. Investment is misallocated because projects with high marginal returns may not receive financing, while projects with lower marginal returns are undertaken. Further, the wrong amount of investment may be undertaken. In other words, the presence of financing hierarchy leads to overall inefficiency in the resource allocation process.

In the context of the discussion of internal vs external finance, it is also useful to consider the debt and equity elements of external finance separately. As shown by Myers and Majluff (1984), the existence of information asymmetries between suppliers of finance and managers could discourage firms from issuing equity and force them to forgo positive NPV projects and therefore lead to underinvestment. Similar considerations may also apply with regard to risky

securities such as debt. However, at modest levels of borrowing, debt is comparatively low risk and there is less negative information associated with issues of debt than equity. External debt finance is therefore used in preference to external equity. New equity issues are restricted to the funding of projects for which there are inadequate internal sources of retention finance and external sources of low risk debt finance are unavailable. This also suggests a "pecking order" of corporate finance in which internal finance is used in preference to debt issues and debt is issued in preference to external equity issues.

Greenwald et al. (1984) also postulate the existence of a tradeoff between issuing risky debt and equity depending on the degree that the returns of the firm are dependent on managerial effort and the scope the firm has to undertake projects with different degrees of risk. When the former is dominant, debt is the optimal instrument. Where the latter is dominant, equity is the optimal instrument. In between, mixtures of debt and equity may minimize the costs of asymmetric information.

Financial slack

The firm's choice between internal and external finance is also related to the notion of financial slack (FS) defined as

$$\text{Financial slack} = \text{Internal finance} - \text{Capital expenditures.}$$

This notion of financial slack is similar to the notion in Stein (1989) where financial slack is defined as "cash reserves or flows that permit it (firm) to fund its investments without having to issue new stock". The definition used here is somewhat broader and addresses the issue of how far the firm can avoid external finance in general while undertaking capital expenditures. Building financial slack essentially allows firms to fund capital expenditures without recourse

to external finance and allows managers to effectively insulate themselves from the constant scrutiny of capital markets; this is also known as the "capital market pressure" hypothesis in the literature. In other words, the higher the level of financial slack, the lower the level of capital market pressure. Based on case studies, Donaldson (1961) found financial slack to be a major strategic goal of firms. One rationale for the existence of financial slack is the lemons premium associated with new equity issues, as shown by Myers and Majluff (1984). However, it should be noted that Myers and Majluff (1984) define financial slack slightly differently. They define financial slack as the sum of cash on hand and marketable securities.

Financial slack could also be based on considerations of managerial discretion in that it allows managers to be more reliant on internal finance where the scope for managerial discretion is maximum. In other words, the higher the level of financial slack, the greater the likely role of internal finance in firm expenditures. Positive financial slack, as defined here, implies that internal finance exceeds capital expenditures.

An overview of Indian corporate finance

Broadly speaking, economies can be characterized as being either stock market-oriented or bank-oriented.¹³ Traditionally, the UK and U.S. economies have been regarded as being stock market-oriented while Japanese and German economies are regarded as being bank-oriented. Apriori, one could expect agency costs and information problems to be lower in a bank-oriented system than in a stock market-oriented system.¹⁴ Therefore, internal finance

¹³ See Allen (1993), Porter (1992), and Stiglitz (1992) for a more detailed discussion.

¹⁴ See Samuel (1995b) for a more detailed discussion of the relationship between agency costs, information problems, and firm financing choices.

should be less important in a bank-oriented system than in a stock market-oriented system.¹⁵

In this framework, India can be considered a bank-oriented system. As noted by Bhatt (1994), the lead bank system in India is similar to the universal banks in Germany and the main bank system in Japan. In the late 1960s, India devised three types of lead banks with a view to raising the rate of financial savings, allocating financial resources to the most productive uses, and improving the investment and productive efficiency of assisted enterprises. The three types of lead banks in India are: (i) lead development bank for investment financing¹⁶; (ii) lead commercial bank for working capital finance; and (iii) lead commercial bank in a district for providing bank finance to small enterprises.

In practice however, the lead development bank system in India has not fully accomplished its goals of promoting efficient import substitution and export promotion because of deficiencies in: (i) project appraisal and evaluation; (ii) monitoring and supervision of projects; and (iii) mechanisms to anticipate problems and take a proactive role in tackling them through managerial, technical, and/or financial assistance in time to projects/enterprises which did not perform as well as anticipated at the time of project appraisal. The primary reason for the lack of adequate monitoring of enterprises has been the failure of the lead development bank to evolve mechanisms of coordination with the commercial banks, who typically provide working capital finance in the Indian context. Likewise, the lead commercial bank system has not

¹⁵ The evidence in Mayer (1988, 1990) and Corbett and Jenkinson (1994) are broadly consistent with this.

¹⁶ There are three all-India development banks: Industrial Development Bank of India (IDBI), Industrial Finance Corporation of India (IFCI), and Industrial Credit and Investment Corporation of India (ICICI). At the state level, practically each state has a State Financial Corporation (SFC) and a State Industrial Development Corporation (SIDC).

attained its objectives due to the absence of an institutional framework for coordination of decision making among banks and the presence of the classic free rider problem with regard to the monitoring of borrower activities.¹⁷ Lastly, the lead bank system for district development has performed poorly with regard to appraisal, monitoring, and supervision of assisted small enterprises in the farm and non-farm sector. In addition, given that the overall institutional and policy framework in India has been significantly different from that of Japan, the end result of the lead bank system in India has been quite different, even though it shared several characteristics of the Japanese main bank system. Another crucial difference between the Indian and Japanese and German financial system is that commercial banks in India do not own equity in corporations. However, Indian development banks do hold significant equity stakes in firms. In addition, the term finance provided by these development banks can be converted to equity under certain circumstances. In the past, this has proved to be controversial in context of the market for corporate control in certain instances.

Comparative analysis

As stated before, this paper compares the financing patterns of Indian and U.S. firms. One implication of the discussion above is that, apriori, one would expect internal finance to be less important than external finance as a source of finance for Indian firms compared to U.S. firms since information problems and agency costs are likely to be lesser for Indian firms compared to U.S. firms, given that India has a bank-oriented financial system compared to the stock market-oriented system in the U.S..

¹⁷ In contrast, IDBI has devised an informal institution called Inter-institutional Meeting (IIM) to coordinate the functions of all-India development banks.

(I) Sample details

The empirical analysis presented in this paper for the U.S. is based on the balance sheets of a panel of 510 firms for the 1972-1992 period, taken from Standard and Poor's COMPUSTAT data base; the sample excludes firms that were involved in major mergers representing contribution to sales exceeding 50 percent of the acquiring firm's net sales for the year in question. The sample includes industrial firms belonging to manufacturing as well as non-manufacturing sectors that are quoted on the major stock exchanges or over-the-counter. When firms go public initially, their stock is issued over the counter, as they usually cannot meet the listing requirements of major exchanges.¹⁸

In the case of Indian firms, data has been taken from Reserve Bank of India's (RBI) publication titled "Report on Currency and Finance" and Industrial Credit and Investment Corporation of India's (ICICI) publication titled "Financial Performance of Companies" for the 1972-1993 period. As in the case of the U.S., the Indian data too refers to industrial firms that are engaged in manufacturing as well as non-manufacturing activities. However, unlike the U.S., the Indian data includes firms that are not quoted on the stock exchanges.

In the case of the U.S. as well as Indian firms, the data on sources and uses of funds have been derived from their balance sheets. With regard to the issue of the size of the firm, the sample used in this paper for both countries covers the whole range of the size distribution. In the case of the RBI data, there is a distinction between medium and large firms, based on

¹⁸ Listing requirements for the New York Stock Exchange currently include: a corporation must have a minimum of one million publicly held shares with a minimum aggregate market value of \$16 million as well as net income topping \$2.5 million before federal income tax.

paid-up capital. Medium firms have been defined as firms with paid-up capital up to Rs. 5 lakhs (table 2), while large firms are firms with paid-up capital of Rs. 1 crore and more (table 3). The ICICI data relates to medium as well as large firms (table 4).

(II) Financing patterns

(a) Indian data

(i) RBI data

Sources and uses of funds: RBI data on medium and large firms for the 1972-1991 period (table 2) suggest that on an average, internal finance contributed about 42 percent of total funds and external finance the remaining 58 percent. While external equity made up about 4 percent of all funds, long-term borrowing contributed 29 percent. With regard to the uses of funds, gross fixed assets accounted for about 50 percent of the funds used.

The data for the large firms shown in table 3 reveal a similar picture. While internal finance provided about 38 percent of the funds, external finance made up the remaining 62 percent. While external equity contributed 6 percent of total funds, long-term borrowing made up 33 percent of total funds.

It is interesting to note that in the case of medium as well as large firms, the evidence in tables 5 and 6 suggest that external finance has become more important in the 1980s compared to the 1970s. This finding is consistent with the result of Roy and Sen (1994) based on national accounts and flow of funds accounts for the 1970-1989 period.¹⁹ Further, tables 2 and 3 suggest that the increasing importance of external finance is due to debt as well as equity; in particular,

¹⁹ This is also consistent with the evidence of Roy Choudhury (1992). Based on data for the 1955-56 to 1986-87 period, Roy Choudhury (1992) has concluded that the dependence of the private corporate sector on external funds for investment has continued and increased.

equity has become more important after 1987, consistent with the overall boom in the Indian stock market during this time.

(ii) ICICI data

Sources and uses of funds: The results based on ICICI's portfolio of firms tell a similar story (table 4). For the 1978-1993 period, internal finance provided about 38 percent of total funds while external finance provided the remaining 62 percent. The ICICI data is somewhat more useful than the RBI data in that it provides more disaggregated information on the components of external finance. While external equity provided 5 percent of funds, debentures provided 9 percent, long-term borrowing from financial institutions (FIs) 13 percent, bank borrowing for working capital 8 percent, and creditors 18 percent.²⁰ With regard to the uses of funds, gross fixed assets accounted for about 54 percent of the total uses of funds by these firms.

(iii) A comparison

It is interesting to compare these findings for India with that of Singh (1995), shown in Table 5. In general, Singh (1995) found that, compared to firms in advanced countries, firms in developing countries financed the growth of net assets from internal sources to a far smaller degree. In particular, Indian companies seem to rely much more on external equity finance for their growth compared to Anglo-Saxon firms today. For instance, in the case of the top 100 Indian manufacturing firms for the 1980-90 period, external equity contributed to about 20 percent of the growth of the average firm. This is significantly higher than the estimates shown

²⁰ In addition to IFCI, ICICI, and IDBI, Industrial Reconstruction Bank of India (IRBI) also provides long-term finance to Indian corporations. Unit trust of India (UTI), Life Insurance Corporation of India (LIC), and General Insurance Corporation of India (GIC) also provide financial assistance and take equity positions in Indian companies. In addition, there are state-level financial institutions (SFCs, SIDCs) that provide long-term finance to Indian companies.

in tables 2, 3, and 4, even though the estimates for the shares of internal and external finance are broadly similar. This finding of similar estimates for internal finance in this study and Singh (1995) is surprising in that, apriori, the Prais (1976) method is expected to lead to smaller estimates for internal finance since depreciation is netted out from both sources and uses of funds.

In other words, the estimates presented in this study differ from Singh (1995) with regard to the components of external finance, i.e., debt and equity, and these differences stem primarily from methodological issues. For one, Singh (1995) follows Prais (1976) and compares retentions net of depreciation with net capital expenditures. Also, the analysis in Singh (1995) is posed in terms of financing of net assets, i.e., total assets less current liabilities, and external equity is derived as a residual, as $(1 - \text{internal finance} - \text{external debt})$. One problem with this approach relates to the treatment of non-current liabilities that are not considered debt or equity.²¹ Once current liabilities are removed as a source of finance, since the issue is posed as the financing of net assets--total assets less current liabilities--, debt, equity, and non-current (other) liabilities are the other sources of finance. If external equity is derived as a residual, i.e., $(1 - \text{internal finance} - \text{debt})$, non-current liabilities get counted as part of this estimate of external equity. Alternatively, if external debt is derived as residual, i.e., $(1 - \text{internal finance} - \text{external equity})$, non-current liabilities would be counted as part of this estimate of external debt. Therefore, if external equity or debt is derived as residual, it is likely to be an overestimate since non-current liabilities would form part of it. As discussed in detail before, the approach

²¹ For the U.S. firms, these liabilities include: (i) Liabilities-other; (ii) Deferred taxes and investment tax credit; and (iii) Minority interest. For the Indian firms, non-current liabilities include other liabilities.

used in this study is distinctly different from the residual approach in Singh and Hamid (1992) and Singh (1995). The divergence in estimates for external equity for Indian firms reported in this paper and the estimates in Singh and Hamid (1992) and Singh (1995) is on account of these methodological differences. In this context, it is interesting to note that equity estimates for Korea and Turkey by other researchers are lower than the estimates in Singh and Hamid (1992) and Singh (1995).²² Also, given these considerations, the estimates reported in this study are not strictly comparable to the estimates in Singh and Hamid (1992) and Singh (1995).

(b) U.S. data

Sources and uses of funds: COMPUSTAT data for the U.S. (table 6) suggests that for the 1972-92 period, on an average internal finance provided about 52 percent of the total funds and external finance provided the remaining 48 percent. While external equity provided 4 percent of total funds, long-term borrowing provided 10 percent. These results for U.S. firms are also consistent with the findings of Samuel (1995a).

Comparative analysis of Indian and U.S. firms

Table 7 summarizes the evidence presented above for Indian and U.S. firms. Based on the analysis of sources and uses of funds, it is clear that Indian firms are far less dependent on internal finance than U.S. firms and more dependent on external finance. Within here, there are some interesting differences between the components of external finance for Indian and U.S. firms (see tables 2, 3, 4, 6). While external debt, debentures, and creditors are more important for Indian firms, other current liabilities are more important for U.S. firms. Interestingly enough, the contribution of external equity as a source of finance is broadly similar for Indian

²² For Korea, see Cho (1995) and for Turkey, see Sak (1995).

and U.S. firms. In other words, while the role of the stock market as a source of finance is broadly similar for Indian and U.S. firms, internal finance is less important for Indian firms than U.S. firms. The fundamental difference between Indian and U.S. firms stems from the role that external debt plays as a source of finance; it is much more important for Indian firms than U.S. firms. It is in this sense that the Indian financial system can be termed as a bank-oriented one.

Also, the figures for total borrowings in tables 2, 3, and 4 bring out some distinct features of Indian corporate finance. Total borrowings of Indian firms have three components: (i) term-loans from development banks; (ii) debentures; and (iii) working capital loans from commercial banks. For the U.S. firms however (table 6), borrowings consist of debentures and long-term borrowings from other bond issues.²³ Therefore, the fundamental difference between Indian and U.S. firms with regard to borrowings relates to the role and nature of development banks in the Indian context.

To summarize, these patterns in the sources and uses of funds do suggest that Indian firms are dependent on internal finance to a far smaller degree than their U.S. counterparts. Consequently, Indian firms are far more dependent on external finance than U.S. firms. These results are therefore consistent with the prediction of internal finance being less important for Indian firms than U.S. firms and external finance being more important for Indian firms than U.S. firms, given that information and agency problems are less severe for Indian firms compared to U.S. firms, since the Indian financial system is predominantly a bank-oriented one.

²³ Unfortunately, COMPUSTAT does not provide the details of working capital loans from commercial banks for U.S. firms.

(c) Other aspects of Indian capital markets

(i) Financing of project costs: In addition to the RBI and ICICI data on company finances, RBI provides detailed information on the financing of project costs. It is interesting to analyze this data as a consistency check on the robustness of the results reported above. However, it is important to note at the outset that this data refers only to capital expenditures and not all uses of funds as was the case earlier. Therefore, these patterns in financing of project costs are more amenable to a direct comparison with the estimates provided by Singh (1995) and Singh and Hamid (1992) for Indian firms. Based on considerations outlined earlier, *apriori*, one would expect the stock market to play a more important role as a source of finance in the financing of capital expenditures compared to its role in all uses of funds.

Tables 8, 9, 10 provide details of financing of project costs by new, existing, and all Indian firms for the 1971-1993 period; however, the breakdown between new and existing firms is available only for the 1971-1984 period. These trends can best be summarized by looking at the patterns for the 1971-1993 period for all firms (table 10). While internal finance provided 6 percent of all project costs, external equity, debentures, loans from banks, and loans from FIs provided 33 percent, 9 percent, 11 percent, and 28 percent respectively. These results are therefore consistent with the previous finding that internal finance is less important for Indian firms than external finance. Also, external debt plays a bigger role than external equity, even though the 33 percent figure for external equity as a source of finance for project costs is significantly higher than the 5 percent figure for external equity as a source of finance that was found earlier. This difference could be due to two factors. First, unlike the earlier data on sources and uses of funds, data on financing of project costs excludes depreciation as a source

of finance. Second, the data on project costs relates only to net capital expenditures and excludes other uses of funds by firms.

As noted before, this data on financing of project costs can be compared to the estimates of Singh and Hamid (1992) and Singh (1995). However, in practice, the estimates shown in tables 5 and 10 turn out to be different, possibly due to methodological differences discussed earlier.²⁴ It is interesting to note that the 28 percent for loans from financial institutions compared to the 11 percent for loans from banks in table 10 are consistent with the earlier figures shown in tables 2, 3, and 4 and highlights the critical role played by development banks in Indian capital markets.

The comparison of project financing patterns of existing (table 9) and new (table 8) firms provide some interesting insights. While internal finance and debentures played a much greater role in project financing for existing companies, external equity and loans from FIs played a much greater role for new companies.²⁵ Since agency costs are likely to be greater for existing firms than new firms, the greater reliance of existing firms on internal finance can be viewed as broadly supportive of the managerial theory of investment in the Indian context.²⁶ In contrast, the information-theoretic approach would have predicted existing firms to be less dependent on

²⁴ A comparison of tables 5 and 10 for the post-1980 period suggests that the figures in table 10 are closer to the upper quartile firms in table 5 than the median or the mean firm.

²⁵ This is consistent with the evidence in RBI (1995). Based on the analysis of capital issues for the 1986-87 to 1990-91 period, RBI (1995) found (convertible) debentures to be the primary source of capital for existing companies and new equity shares to be the primary source of capital for new companies.

²⁶ In this context, it is interesting to note that Athey and Laumas (1994) and Cobham and Subramaniam (1995) find internal finance to be relatively more important for large Indian firms than small firms. This evidence is consistent with the results presented here, once it is recognized that existing firms are likely to be bigger than new firms that are usually small.

internal finance than new firms since information problems are likely to be lesser for existing firms than new firms. A similar analysis for U.S. firms could not be undertaken in the absence of data on the financing of project costs. In particular, this would have been useful in delineating the relative roles of internal and external finance--especially equity--in the financing of new capital expenditures vis-a-vis take-over of existing firms. It is well-known that the stock market plays a critical role in takeovers in the U.S. context and the two go in tandem.²⁷

(ii) Absorption of private capital issues: Table 11 provides details of firms that issued shares to finance projects for the 1971-1993 period. This data reflects the booming of the Indian stock market in recent years. The number of issuing firms increased from 57 in 1971 to 121 in 1981 and 426 in 1993. Likewise, the amount issued has gone up from Rs. 423 million in 1971 to Rs. 984 million 1981 and Rs. 42 billion in 1993. One indicator of the stock market boom and maturity is the dramatic increase in the percentage of issues that were underwritten during the 1990s. Another interesting aspect is the composition of share ownership. For the 1971-93 period, of the 28 percent of issued capital that was subscribed, promoters contributed some 22 percent, while FIs took up the remaining 6 percent. Of the remaining 78 percent, the public subscribed to 53 percent while underwriters took up the remaining 19 percent, mostly as part of underwriting obligations.²⁸ Also, the steady increase in the percentage of amount underwritten is another indication of the boom in the Indian stock market in recent years. It is

²⁷ Among others, Mueller (1987) has attributed the wave-like pattern of mergers to this tight relationship between the stock market and take-overs.

²⁸ This is also consistent with the evidence in RBI (1995). Based on the analysis of capital issues for the 1986-87 to 1990-91 period, RBI found public response to equity issues to be higher compared to debenture issues, indicating the preference of investors to the risk capital in anticipation of getting higher returns.

also interesting to note that for the 1971-93 period, the average firms raised about Rs. 0.321 crores from public issues. Within here, the Rs. 0.574 crores for the 1981-93 period is significantly higher than the Rs. 0.068 crores for the 1971-80 period.²⁹

Conclusions and discussion

There are many ways to characterize the decisions that firms make regarding the sources and uses of funds. The results in this paper suggest that on the sources of funds side, the firm's fundamental choice is between internal and external finance. Likewise, on the uses of funds side, the choice is between physical and financial investments. Overall, the evidence in this paper suggest that the stock market plays a very limited role as a source of finance for Indian as well as U.S. firms. The interesting puzzle this finding then poses is that given this limited financing role of the role of the stock market, why do managers worry so much about share prices?

On a comparative basis, the fundamental difference between firm financing choices in India and the U.S. relate to the smaller role of internal finance and the bigger role of external debt in Indian firms compared to U.S. firms. This result is consistent with theoretical predictions, given that information and agency problems are less severe for Indian firms compared to U.S. firms, since the Indian financial system is predominantly a bank-oriented one and is closer to Japanese and German financial systems than the US and UK financial systems.

The arguments presented in this paper also suggest that there is a fundamental methodological difference between a study of sources and use of funds and a study of the

²⁹ These figures are based on the raw data used for Table 11, taken from the various issues of RBI's Report on Currency and Finance.

financing of net asset growth/capital expenditures. While the approach in this paper is of the former variety--similar to Mayer (1988, 1990), Corbett and Jenkinson (1994), Cobham and Subramaniam (1995), and others--, the approach of Singh (1995), Singh and Hamid (1992), Prais (1976), and others is of the latter variety. This difference is important since the latter approach gives a much higher estimate of the role of the stock market as a source of finance than the former approach.

What do these findings imply for the issue of stock market development in developing countries? The comparison of corporate finance issues for Indian and U. S. firms suggests that the role of the stock market as a source of finance is limited and remarkably similar for Indian and U.S. firms, despite the vastly different nature of capital markets in the two countries.³⁰ In broad terms, India could be classified as a bank-oriented economy and the U.S. a stock market-oriented economy, based on the role played by commercial banks and development banks in the financing of Indian corporations.

To the extent that these results for India are generalizable to other developing countries, it would seem that the development of stock markets is unlikely to spur corporate growth in developing countries, if the analysis is restricted to the role of the stock market as a source of finance.³¹ One important caveat to this discussion of the Indian stock market relates to the limited role of foreign investors in the slow-paced Indian privatization of state-owned enterprises. Other emerging markets such as Latin America and Eastern Europe are different

³⁰ Of course, the two economies do differ with regard to other roles of the stock market such as: (i) a signalling device for managers with regard to capital expenditure decisions; (ii) the market for corporate control; and (iii) a mechanism for corporate governance.

³¹ Singh (1993) also argues that developing countries should attempt to foster bank-based financial systems rather than establish and encourage stock markets.

in that foreign investors play a much more active role in the privatization process in these countries through the stock market. Overall however, foreign institutional investors have started to more become active in India's capital markets in recent years, despite the tardy progress on security market reforms related to market microstructure.

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Table 1: Sources and Uses of Funds

Sources of funds	Uses of funds
Internal	Gross fixed assets
Retained earnings	Inventories
Depreciation	Other current assets
External	Total
Paid-up capital	
Debentures	
Long-term borrowing	
Unsecured loans & advances	
Creditors	
Other current liabilities	
Total	

Table 2: Sources and uses of funds for Medium firms: RBI data, 1972-1991(%)										1972-80	1980-91	1972-91
	1972	1973	1974	1975	1976	1977	1978	1979	1980	Average	Average	Average
Number of companies	1650	1650	1650	1650	1650	1720	1720	1720	1720	1681	1874	1778
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sources												
Internal	61.1	74.4	52.1	46.0	42.6	45.0	41.9	42.9	43.0	49.9	33.5	41.7
External	38.9	25.6	47.9	54.0	57.4	55.0	58.1	57.1	57.0	50.1	66.5	58.3
Paid-up capital	3.1	2.5	1.4	1.5	2.5	3.4	2.1	2.6	1.9	2.3	5.1	3.7
Total borrowings	15.9	1.1	16.7	23.0	33.3	26.7	25.3	25.5	27.2	21.6	36.6	29.1
of which bank borrowing	10.1	-7.5	11.7	17.1	20.4	15.3	12.5	17.4	12.8	12.2	12.0	12.1
Other current liabilities	19.9	22.0	29.7	29.5	21.7	25.0	30.6	29.0	27.9	26.1	24.7	25.4
Uses												
Gross fixed assets	46.5	65.0	41.9	35.6	57.6	56.4	54.6	48.1	40.1	49.5	50.2	49.9
of which plant and machi	32.6	47.0	30.3	28.2	45.2	40.3	39.9	38.0	30.9	36.9	36.8	36.9
Inventories	36.7	19.5	32.5	45.3	13.6	2.7	19.7	33.2	36.9	26.7	19.1	22.9
Other current assets	16.8	15.6	25.6	19.1	28.8	41.0	25.8	18.7	23.1	23.8	30.7	27.3
Table 2: Sources and uses of funds for Medium firms: RBI data, 1972-1991(%)												1981-91
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Average
Number of companies	1720	1651	1651	1838	1838	1942	1942	1885	1885	2131	2131	1874
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sources												
Internal	38.4	29.0	30.5	37.5	39.3	34.6	29.0	36.3	29.0	29.7	35.8	33.5
External	61.6	71.0	69.5	62.5	60.7	65.4	70.9	63.7	71.0	70.3	64.2	66.5
Paid-up capital	0.9	2.1	1.6	4.4	3.5	2.6	3.3	15.8	6.5	6.8	8.9	5.1
Total borrowings	29.1	36.9	40.6	40.4	32.8	36.8	39.8	33.9	37.0	41.4	33.9	36.6
of which bank borrowing	6.3	13.3	9.0	14.0	11.7	13.1	13.6	9.8	19.9	11.5	10.4	12.0
Other current liabilities	31.7	32.1	27.3	17.7	24.5	26.1	27.8	14.0	27.5	22.2	21.3	24.7
Uses												
Gross fixed assets	47.5	45.6	57.3	61.5	54.7	43.5	53.1	58.7	41.1	38.5	51.0	50.2
of which plant and machi	32.5	30.4	42.0	50.4	43.1	33.8	42.2	37.9	28.7	31.7	32.3	36.8
Inventories	25.4	29.0	16.0	5.1	15.4	22.9	14.4	16.6	24.0	19.6	21.3	19.1
Other current assets	27.1	25.4	26.7	33.4	29.9	33.6	32.4	24.7	35.0	41.9	27.7	30.7
Notes: Till 1983, the data is for firms with paid-up capital upto Rs. 5 lakhs. After 1983, the data is for various paid-up capital size groups.												
Source: Report on Currency and Finance, Reserve Bank of India, Various years												

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1977-85 Average	
Number of companies	415	415	433	433	433	486	486	535	535	463	
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Sources											
Internal	49.9	47.8	47.9	44.5	40.6	31.3	33.4	42.9	43.3	42.4	
External	50.1	52.2	52.1	55.5	59.4	68.8	66.6	57.1	56.7	57.6	
Paid-up capital	3.6	2.3	2.7	2.0	0.8	2.2	1.4	5.5	3.7	2.7	
Total borrowings	25.9	23.8	21.3	25.1	27.8	36.3	37.9	40.4	32.9	30.2	
of which bank borrowin	13.3	8.2	13.5	10.7	2.2	11.0	7.2	12.6	9.2	9.8	
Other current liabilities	20.6	26.1	28.1	28.4	30.8	30.2	27.3	11.2	20.1	24.8	
Uses											
Gross fixed assets	58.2	62.1	52.0	39.4	49.0	46.8	56.6	64.9	56.1	53.9	
of which plant and mach	41.6	45.2	42.6	29.9	33.0	30.2	43.8	54.1	44.0	40.5	
Inventories	2.0	13.3	32.0	38.0	24.1	28.8	16.5	2.3	16.0	19.2	
Other current assets	39.8	24.6	16.0	22.5	26.9	24.4	26.9	32.8	27.9	26.9	

	1986	1987	1988	1989	1990	1991	1992	1993	1986-93 Average	1977-85 Average	1977-93 Average
Number of companies	581	581	622	622	645	645	650	650	625	463	544
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sources											
Internal	36.2	32.7	40.9	35.1	33.2	40.9	29.9	26.3	34.4	42.4	38.4
External	63.9	67.3	59.1	64.9	66.8	59.1	70.1	73.7	65.6	57.6	61.6
Paid-up capital	2.3	3.2	18.5	4.9	7.3	8.9	7.9	23.0	9.5	2.7	6.1
Total borrowings	36.7	37.0	33.6	35.2	39.3	29.5	40.9	36.5	36.1	30.2	33.1
of which bank borrowin	11.9	11.7	8.9	15.7	8.8	9.4	9.0	10.9	10.8	9.8	10.3
Other current liabilities	24.9	27.1	7.0	24.7	20.2	20.7	21.3	14.2	20.0	24.8	22.4
Uses											
Gross fixed assets	44.3	54.4	62.1	42.5	37.9	50.9	49.6	54.0	49.5	53.9	51.7
of which plant and mach	34.5	44.6	41.2	28.7	31.2	31.9	28.5	47.9	36.1	40.5	38.3
Inventories	21.9	12.9	14.3	25.5	19.1	22.4	14.6	16.4	18.4	19.2	18.8
Other current assets	33.8	32.7	23.5	32.0	43.0	26.7	35.8	29.6	32.1	26.9	29.5

Note: Data is for firms with paid-up capital of Rs. 1 crore and above

Source: Report on Currency and Finance, Reserve Bank of India, Various years

Table 4: Sources of uses and funds of Medium and Large firms: ICICI data, 1978-1993 (%)									Average		
	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1978-85		
Number of companies	417	417	417	417	417	417	417	417	417		
Sources	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Internal	38.6	41.6	34.9	37.2	30.2	33.4	39.5	42.1	37.2		
Depreciation	29.7	25.2	18.9	20.3	15	16.6	23.7	26.3	22.0		
Reserves and surplus	8.9	16.4	16	16.9	15.2	16.8	15.8	15.8	15.2		
External	61.4	58.4	65.1	62.8	69.8	66.6	60.5	57.9	62.8		
Paid-up capital	10.2	6.1	4	4	4.2	2.8	4.1	2.4	4.7		
Debentures	1.4	1	2.2	4.9	3.2	8.9	11.5	15.9	6.1		
L-T borrowings	10.4	9.4	11.5	12	15.2	17.5	14.5	8.9	12.4		
Bank borrowings for	1.5	10.3	11.9	3.9	10.3	4.4	7.5	7	7.1		
Unsecured loans and	13.2	3.6	2.8	9.3	8.2	9.3	8.2	3.4	7.3		
Creditors	16.5	29.6	25.9	27.3	24.1	22.3	10.2	16.9	21.6		
Other current liabilities	8.2	-1.6	6.8	1.4	4.6	1.4	4.1	3	3.5		
Uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Gross fixed assets	61.6	53.5	40.7	54.2	46.5	58.2	62.2	53.5	53.8		
Inventories	12.4	29.3	36.5	24.5	25.9	14.8	8.2	15.9	20.9		
Other current assets	26	17.2	22.8	21.3	27.6	27	29.6	30.6	25.3		
Table 4: Sources of uses and funds of Medium and Large firms (%)									Average	Average	Average
	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1986-93	1978-85	1978-93
Number of companies	417	417	532	532	620	620	620	620	547	417	482
Sources	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Internal	37.0	31.6	48.7	36.0	32.8	41.7	37.0	39.5	38.0	37.2	37.6
Depreciation	19.3	18.9	26.8	19.4	16.2	18.2	14.2	15.3	18.5	22.0	20.3
Reserves and surplus	17.7	12.7	21.9	16.6	16.6	23.5	22.8	24.2	19.5	15.2	17.4
External	67.0	68.4	51.3	64.0	37.2	58.3	63.0	60.5	58.7	62.8	60.8
Paid-up capital	2.3	3.8	8.6	3.5	3.5	3.8	2.9	5.9	4.3	4.7	4.5
Debentures	15.2	21.9	4.8	4.8	13.0	9.9	8.5	12.0	11.3	6.1	8.7
L-T borrowings	4.3	10.1	13.0	10.8	14.5	11.6	17.4	20.0	12.7	12.4	12.6
Bank borrowings for	9.0	9.0	4.4	14.7	7.6	7.1	6.5	9.2	8.4	7.1	7.8
Unsecured loans and	6.5	5.5	3.0	4.7	5.1	5.2	9.3	1.7	5.1	7.3	6.2
Creditors	22.9	10.1	14.4	19.3	15.6	12.4	13.9	9.3	14.7	21.6	18.2
Other current liabilities	2.3	7.6	2.6	5.8	7.4	7.9	4.0	2.0	5.0	3.5	4.2
Uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Gross fixed assets	46.6	56.9	68.6	45.1	41.9	55.4	57.0	54.1	53.2	53.8	53.5
Inventories	22.6	12.6	12.1	21.5	17.5	18.2	12.8	15.3	16.6	20.9	18.8
Other current assets	30.8	30.5	19.2	33.3	40.4	16.2	30.1	30.4	28.9	25.3	27.1
Source: Financial Performance of Companies, ICICI, Various years.											

Table 5: India: Top 100 Listed Companies in Manufacturing, 1980-1990
Quartile Distributions of Indicators of Financing of Corporate Growth: After
Tax Retention Ratio, Internal and External Financing of Growth

	Retention ratio (%)	Internal finance (%)	External equity (%)	External debt (%)
Minimum	14.8	-89.5	-31.8	-9.8
Lower Quartile (Q1)	55.0	23.9	3.6	24.2
Median (Q2)	68.0	38.1	16.3	38.9
Upper Quartile (Q3)	76.2	62.0	31.5	57.8
Maximum (Q4)	99.9	113.0	79.6	110.0
Mean	65.7	40.5	19.6	39.9
Standard deviation	15.0	32.8	21.9	24.4
Skewness	-0.60	-0.80	0.67	0.29
Kurtosis	0.59	3.10	0.57	-0.01

Source: Table B-2, Singh (1995).

Table 6: Sources and uses of funds for U.S. firms: 1972-1992 (%)										Average	Average	Average
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1972-80	1981-92	1972-92
Number of companies	510	510	510	510	510	510	510	510	510	510	510	510
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sources												
Internal	59.2	50.8	41.8	60.8	55.3	56.2	48.3	49.5	53.8	52.9	51.7	52.3
Depreciation	27.8	20.6	16.1	23.7	22.8	26.0	22.1	18.7	20.3	22.0	30.3	26.1
Reserves and surplus	31.4	30.2	25.7	37.1	32.5	30.2	26.2	30.8	33.5	30.8	21.4	26.1
External	40.8	49.3	58.2	39.1	44.8	43.8	51.7	50.4	46.2	47.1	48.3	47.7
External equity	7.3	4.3	4.0	6.7	5.4	3.5	2.8	1.5	3.8	4.4	3.6	4.0
Debentures	5.8	1.1	5.8	15.4	8.0	3.5	0.9	0.3	-3.3	4.2	1.8	3.0
Long-term borrowings	4.5	5.0	6.4	10.4	0.6	7.0	12.4	7.0	16.3	7.7	11.9	9.8
Other current liabilities	7.9	18.0	20.8	-11.3	14.2	10.5	17.7	18.4	9.6	11.8	15.5	13.6
Other liabilities	4.9	6.7	6.4	11.4	7.6	10.3	7.4	8.6	13.0	8.5	11.6	10.0
Creditors	10.4	14.2	14.8	6.5	9.0	9.0	10.5	14.6	6.8	10.6	4.0	7.3
Uses												
Gross fixed assets	39.6	32.2	34.9	61.8	44.7	49.0	48.0	46.7	57.3	46.0	50.8	48.4
Inventories	11.8	22.4	33.3	-1.2	17.5	18.3	16.5	20.3	14.6	17.1	6.5	11.8
Other current assets	48.6	45.4	31.9	39.4	37.9	32.7	35.5	33.0	28.1	36.9	42.7	39.8
Table 6: Sources and uses of funds for U.S. firms: 1972-1992 (%)												
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Number of companies	510	510	510	510	510	510	510	510	510	510	510	510
Total sources/uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sources												
Internal	49.4	64.0	61.0	52.4	43.2	55.8	64.9	34.0	33.3	48.5	61.6	51.8
Depreciation	21.2	42.4	36.5	26.1	31.7	37.3	34.8	13.7	22.6	26.4	36.4	33.9
Reserves and surplus	28.2	21.6	24.5	26.3	11.5	18.5	30.1	20.3	10.7	22.1	25.2	17.9
External	50.5	35.9	38.9	47.6	56.9	44.2	35.2	66.0	66.6	51.5	38.4	48.2
External equity	9.2	8.7	11.2	-3.9	1.4	2.6	-2.3	-5.7	4.2	-1.2	5.2	13.2
Debentures	3.0	2.7	3.0	3.5	2.8	1.3	0.6	-0.1	1.1	1.6	2.9	-0.3
Long-term borrowings	13.4	19.1	-1.7	17.0	12.4	15.6	5.5	14.9	21.9	10.0	17.9	-3.4

Table 7: Summary of financing patterns (%)

(I) Sources and uses of funds				
	Medium firms (RBI)	Large firms (RBI)	All firms (ICICI)	All firms (COMPUSTAT)
Internal finance	41.7	38.4	37.6	51.0
External debt	29.1	33.1	20.4	9.8
External equity	3.7	6.1	4.5	4.0
Time-period	1972-91	1977-93	1981-93	1972-92
NT	1778	543	497	504

Source: Based on tables 2, 3, 4, 6

Table 8: Financing of project cost of New Indian companies: 1971-1984(%)															Average
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1971-84
Number of companies	21	27	37	84	29	50	41	40	48	69	95	168	290	409	101
Share capital(Indian)	25.9	31.4	35.9	37.0	33.8	34.8	33.7	29.9	36.5	33.5	35.0	26.9	38.8	39.3	33.7
Share capital(Foreign)	8.4	0.6	0.4	0.1	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Reserves and surplus	0.0	3.7	1.3	1.0	0.3	0.4	0.1	1.1	0.0	2.4	0.1	0.2	1.3	2.0	1.0
Subsidy from central govt.	0.0	0.0	0.1	0.2	0.4	0.7	1.3	0.1	1.4	1.9	2.2	0.7	1.4	1.3	0.8
Debentures/Bonds	0.0	0.0	1.2	0.0	0.0	0.0	0.3	0.0	0.0	4.4	0.0	0.0	4.4	2.5	0.9
Deferred payments	2.1	0.2	0.5	2.3	2.4	2.6	1.2	0.2	0.8	0.0	0.2	0.0	0.5	1.1	1.0
Loans from Financial Institutions	6.4	33.1	37.3	30.8	26.3	39.4	47.6	50.4	51.5	49.9	56.7	49.3	41.7	43.2	40.3
Loans from banks	3.5	24.5	22.1	23.6	34.6	18.1	9.7	16.4	7.9	7.4	4.2	15.9	10.0	4.9	14.5
Loans from directors and friends	0.0	0.0	0.0	0.9	0.6	1.6	4.2	0.5	1.1	0.4	0.9	0.3	0.4	0.3	0.8
Loans from other sources	53.6	6.6	1.2	4.2	1.7	2.3	0.9	1.0	0.8	0.1	0.8	6.7	1.5	0.4	5.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source: Report of Currency and Finance, Reserve Bank of India, Various years															

Table 9: Financing of project cost of Existing Indian companies: 1971-1984(%)															
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Average 1971-84
Number of companies	36	21	24	47	30	33	28	40	32	27	26	76	63	32	37
Share capital(Indian)	27.1	6.3	13.3	35.7	27.1	33.5	18.9	22.2	21.7	60.3	10.2	9.5	10.5	34.3	23.6
Share capital(Foreign)	1.4	0.4	0.0	0.2	0.0	0.0	0.5	0.3	0.7	0.0	0.0	0.1	0.0	0.0	0.3
Reserves and surplus	9.5	4.5	36.7	7.1	13.9	15.6	10.5	19.4	0.0	2.3	43.0	11.4	19.6	9.3	14.5
Subsidy from central govt.	0.0	0.0	0.0	0.2	0.4	0.0	0.2	0.1	0.6	0.3	0.5	0.1	0.5	0.9	0.3
Debentures/Bonds	7.2	1.9	8.8	7.2	9.3	0.2	0.0	1.4	1.8	0.0	24.7	32.3	45.4	20.1	11.4
Deferred payments	5.6	0.7	0.2	1.8	0.0	1.0	10.8	1.7	1.4	0.0	0.0	0.2	0.6	1.4	1.8
Loans from Financial Institutions	15.1	8.1	16.4	32.0	33.1	30.9	7.5	21.6	49.9	18.9	14.7	19.2	17.7	21.3	21.9
Loans from banks	19.9	0.6	24.3	14.5	14.5	17.6	24.0	19.7	6.0	17.5	3.0	23.2	5.6	5.3	14.0
Loans from directors and friends	0.0	0.0	0.0	0.0	0.1	0.5	0.2	0.3	0.8	0.0	0.0	2.3	0.1	0.0	0.3
Loans from other sources	14.3	1.5	0.2	1.3	1.7	0.6	27.5	13.3	17.0	0.6	3.6	1.7	0.0	0.4	6.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source: Report of Currency and Finance, Reserve Bank of India, Various years															

Table 10: Financing of project cost of All Indian companies: 1971-1993(%)											Average	Average	Average
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1971-80	1981-93	1971-93
Number of companies	57	48	61	131	59	83	69	80	80	96	76	299	188
Share capital(Indian)	26.4	17.1	19.1	36.4	30.5	34.3	27.3	26.1	29.5	41.7	28.8	36.6	32.7
Share capital(Foreign)	5.1	0.5	0.1	0.1	0.0	0.0	0.8	0.4	0.3	0.0	0.7	0.2	0.5
Reserves and surplus	4.4	4.2	27.7	3.9	6.8	6.4	4.6	10.1	0.0	2.4	7.0	5.5	6.2
Subsidy from central govt.	0.0	0.0	0.0	0.2	0.4	0.4	0.8	0.1	1.1	1.4	0.4	0.8	0.6
Debentures/Bonds	3.3	1.1	6.9	3.5	4.5	0.1	0.2	0.7	0.9	3.1	2.4	16.3	9.3
Deferred payments	3.8	0.5	0.3	2.0	1.2	2.0	5.4	1.0	1.1	0.0	1.7	0.5	1.1
Loans from Financial Institutions	10.4	18.9	21.8	31.3	29.5	36.1	30.1	36.3	50.7	40.4	30.6	26.1	28.4
Loans from banks	11.1	10.9	23.7	19.2	24.9	17.9	15.9	18.0	7.0	10.5	15.9	5.9	10.9
Loans from directors and friends	0.0	0.0	0.0	0.5	0.4	1.1	2.4	0.4	1.0	0.3	0.6	2.1	1.3
Loans from other sources	35.5	3.7	0.5	2.8	1.7	1.7	12.5	7.0	8.4	0.3	7.4	5.7	6.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Table 10: Financing of project cost of All Indian companies: 1971-1993(%)													
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Number of companies	121	244	353	441	395	676	385	119	178	262	130	159	426
Share capital(Indian)	18.8	18.7	24.7	38.7	35.7	38.8	28.5	47.5	22.8	51.5	53.6	44.7	52.1
Share capital(Foreign)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.0	1.1
Reserves and surplus	28.2	5.5	10.5	2.8	6.0	1.5	3.8	2.5	2.0	0.6	2.2	3.2	2.0
Subsidy from central govt.	1.1	0.4	1.0	1.2	1.2	1.3	0.9	0.7	0.3	0.1	1.9	0.3	0.3
Debentures/Bonds	16.2	15.2	24.8	4.4	7.9	6.1	22.2	11.7	30.1	32.4	14.8	14.8	10.7
Deferred payments	0.1	0.1	0.6	1.1	1.1	0.6	0.3	0.3	0.7	0.2	0.0	0.3	0.7
Loans from Financial Institutions	29.2	35.2	29.7	40.8	31.4	37.0	31.6	26.4	19.0	9.6	16.2	20.0	13.6
Loans from banks	3.4	19.3	7.8	5.0	5.7	5.7	7.5	4.4	4.0	1.9	3.5	6.0	1.9
Loans from directors and friends	0.3	1.2	0.2	0.3	0.1	0.3	0.5	0.7	0.6	0.3	4.6	5.7	12.1
Loans from other sources	2.7	4.3	0.8	0.4	10.9	8.9	4.7	5.7	20.5	3.1	3.1	3.9	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source: Report of Currency and Finance, Reserve Bank of India, Various years													

Table 11: Absorption of Private capital issues: India, 1971-1993 (%)											1971-80	1981-93	1971-93
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Average	Average	Average
Number of companies	57	48	61	131	59	83	69	80	80	96	76	299	188
Amount issued(I + II)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
I. Subscribed	21.2	12.7	9.5	16.5	8.3	12.0	16.8	20.3	19.6	22.3	15.9	39.7	27.8
By Promoters etc.	20.7	9.3	7.6	9.7	6.1	9.0	12.8	14.4	16.3	17.2	12.3	32.6	22.4
By Govt. Financial Institutions	0.5	3.5	2.0	6.8	2.2	3.0	3.9	5.9	3.4	5.2	3.6	7.2	5.4
II. Offered to public	78.8	87.3	90.5	83.5	91.7	88.0	83.2	79.7	80.4	77.7	84.1	60.2	72.2
Subscribed by public other than underwrit	45.3	63.2	47.5	56.8	50.5	44.6	45.2	42.9	60.1	64.1	52.0	53.9	53.0
Subscribed by underwriters	32.7	23.9	42.7	24.7	41.1	43.4	36.9	34.8	20.2	13.4	31.4	5.9	18.6
as investors	16.1	8.4	32.7	9.5	21.8	26.9	20.6	7.8	3.3	6.6	15.4	1.5	8.5
as part of underwriting obligations	16.6	15.5	10.0	15.2	19.3	16.5	16.3	27.0	16.9	6.9	16.0	4.6	10.3
left unsubscribed	0.7	0.2	0.4	2.0	0.1	#VALUE!	1.2	1.9	0.1	0.2	#VALUE!	0.2	#VALUE!
III. Amount underwritten	72.2	82.7	83.1	79.8	85.1	85.4	73.5	73.8	61.5	60.4	75.7	43.4	59.6
III as percentage of II	91.7	94.8	91.8	95.6	92.8	97.1	88.3	92.6	72.2	77.8	89.5	71.1	80.3
Table 11: Absorption of Private capital issues: India, 1971-1993 (%)													
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Number of companies	121	244	353	441	395	676	385	119	178	262	130	159	426
Amount issued(I + II)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
I. Subscribed	24.7	28.4	42.4	32.9	41.9	35.8	45.6	43.8	34.8	59.9	55.0	52.6	19.0
By Promoters etc.	22.5	24.5	39.8	28.2	26.4	29.3	24.0	38.3	28.6	56.9	45.0	41.9	17.9
By Govt. Financial Institutions	2.2	3.9	2.6	4.6	15.5	6.5	21.6	5.5	6.3	2.9	10.0	10.7	1.1
II. Offered to public	75.3	71.6	57.6	67.1	58.1	64.2	54.4	56.2	65.2	40.1	45.0	47.4	81.0
Subscribed by public other than underwrit	66.7	61.9	43.9	59.1	52.8	63.6	49.1	46.3	61.0	38.3	43.2	47.3	67.8
Subscribed by underwriters	8.5	9.7	12.4	8.0	5.3	0.6	5.0	9.7	0.7	1.7	1.8	0.1	13.2
as investors	2.1	3.0	3.7	0.2	0.0	0.0	3.5	3.2	0.0	0.2	0.0	0.1	4.0
as part of underwriting obligations	6.3	6.8	8.7	7.8	5.3	0.6	1.5	6.5	3.5	1.5	1.8	0.0	9.2
left unsubscribed	0.2	0.0	1.3	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.3
III. Amount underwritten	42.8	62.0	45.6	44.7	43.3	41.0	33.0	34.6	26.0	12.7	42.0	46.8	90.1
III as percentage of II	56.8	86.6	79.2	66.7	74.4	63.8	60.6	61.5	39.9	31.6	93.4	98.8	111.3
Source: Report on Currency and Finance, Reserve Bank of India, Various years.													

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